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## **Dr. NESSERIS, Savvas (NBIA Copenhagen): A model-independent null test on the cosmological constant**

*Thursday, 16 September 2010 17:00 (15 minutes)*

We use the  $\Omega_m$  statistic and the Genetic Algorithms (GA) in order to derive a null test on the spatially flat cosmological constant model  $\Lambda$ CDM. This is done in two steps: first, we apply the GA to the Constitution SNIa data in order to acquire a model independent reconstruction of the expansion history of the Universe  $H(z)$  and second, we use the reconstructed  $H(z)$  in conjunction with the  $\Omega_m$  statistic, which is constant only for the  $\Lambda$ CDM model, to derive our constraints. We find that while  $\Lambda$ CDM is consistent with the data at the  $2\sigma$  level, some deviations from  $\Lambda$ CDM model at low redshifts seems to be mildly preferred.

### **ArXiv number (if any)**

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